



## **DEPARTMENT OF TRANSPORTATION**

National Highway Traffic Safety Administration

Denial of Motor Vehicle Defect Petition, DP12-001

**AGENCY:** National Highway Traffic Safety Administration (NHTSA).

**ACTION:** Denial of petition for a defect investigation.

**SUMMARY:** This notice describes the reasons for denying a petition (DP12-001) submitted to NHTSA under 49 U.S.C. Subtitle B, Chapter V, Part 552, Subpart A, requesting that the agency “open an investigation” into “the repeated final drive bearing failure and possibly flawed assembly controls of the final drive unit on BMW K1200LT [motorcycles].”

**FOR FURTHER INFORMATION CONTACT:** Bob Young, Office of Defects Investigation (ODI), NHTSA; 1200 New Jersey Ave., SE; Washington, DC 20590. Telephone: 202-366-4806.

**SUPPLEMENTARY INFORMATION:** By letter dated November 28, 2011, Mr. Christopher D. Cimino wrote to NHTSA requesting that the agency open an investigation into “the repeated final drive bearing failure and possibly flawed assembly controls of the final drive unit on BMW K1200LT [motorcycles]” and to require BMW to “recall the affected models for inspection of component wear and proper assembly of the [final drive].”

NHTSA reviewed the material provided by the petitioner and other pertinent data that the agency gathered since first learning of this issue in February, 2003. The results of this review and

NHTSA's analysis of the petition's merit is set forth in the DP12-001 Petition Analysis Report, published in its entirety as an appendix to this notice.

For the reasons presented in the petition analysis report, it is unlikely that an order concerning the notification and remedy of a safety-related defect would be issued as a result of granting Mr. Cimino's request. Therefore, in view of the need to allocate and prioritize NHTSA's limited resources to best accomplish the agency's safety mission, the petition is denied.

Authority: 49 U.S.C. § 30162(d); delegations of authority at CFR 1.50 and 501.8.

Issued on: June 5, 2013

---

Nancy Lummen Lewis  
Associate Administrator  
for Enforcement

Billing Code 4910-59-P

## APPENDIX

### Petition ANALYSIS – DP12-001

#### 1.0 INTRODUCTION

On December 5, 2011 the National Highway Traffic Safety Administration (NHTSA) received a letter (dated November 28, 2011) from Mr. Christopher D. Cimino, requesting NHTSA to investigate repeated final drive bearing failure[s] on certain BMW K1200LT model motorcycles and require BMW to recall the affected models for inspection of component wear and proper assembly of the unit. In support of his request, Mr. Cimino cites: an earlier BMW motorcycle recall addressing a final drive oil loss issue (06V399)<sup>1</sup>; related consumer complaints filed with NHTSA<sup>2</sup>; an internet-based registry of owners experiencing a final drive “failure”<sup>3</sup>; an article appearing in a motorcycle related magazine<sup>4</sup>; and his own personal experience wherein he had to replace the final drive ring gear ball-type bearing twice. Mr. Cimino also included the damaged bearing parts from his most recent incident. While Mr. Cimino did not style his letter as a petition in accordance with 49 U.S.C. Part 552.4, NHTSA is treating it as such.

In analyzing the petitioner’s allegations and preparing a response, NHTSA:

- Reviewed and analyzed the petitioner’s November 28<sup>th</sup> letter and attachments;
- Discussed Mr. Cimino’s allegations with him ;
- Reviewed NHTSA consumer complaints identified by Mr. Cimino and those submitted to the agency after he filed his request;

---

<sup>1</sup> NHTSA Recall 06V399 was filed on 10-9-06. This recall addresses oil leaking from the speed sensor o-ring of approximately 700 BMW motorcycles .

<sup>2</sup> Mr. Cimino cites 145 consumer complaints which he found at <http://www-odi.nhtsa.dot.gov/complaints/>

<sup>3</sup> Now defunct, a internet-based registry of related final-drive complaints could be found at [www.bmwfinaldrive.com](http://www.bmwfinaldrive.com).

<sup>4</sup> Bill Shaw, “Tarnished Roundel – Final Drive Failures Taint BMW’s Image,” *Motorcycle Consumer News*, Sep. 2008.

- Reviewed Early Warning Reporting (EWR) data submitted by BMW pursuant to C.F.R. §579.23;
- Reviewed information related to BMW's safety recall (06V399);
- Conducted a comprehensive internet-based search for information concerning sudden, unforeseen subject final drive bearing failure resulting in loss of motorcycle control;
- Reviewed NHTSA's consumer complaint database for relevant reports;
- Reviewed [www.bmwlt.com](http://www.bmwlt.com), [www.ibmwr.org](http://www.ibmwr.org), [www.bmwmoa.org](http://www.bmwmoa.org), and [www.bmwra.org](http://www.bmwra.org) for relevant internet forum postings;
- Analyzed data related to the internet-based registry of final drive-related complaints found at [www.bmwfinaldrive.com](http://www.bmwfinaldrive.com);
- Conducted informal interviews with K1200LT owners at various BMW Motorcycle Owners of America (BMWMOA) and BMW Riders Association (BMWRA) national rallies;
- Participated in discussions with technical experts at the BMWMOA and BMWRA national rallies;
- Participated in discussions with BMW Motorrad (BMW's motorcycle division) dealer service personnel;
- Reviewed magazine articles pertaining to the final drive bearing issue, and conducted informal discussions with the authors of those articles;
- Conducted a comprehensive, internet-based search for information (including forum postings) concerning sudden, unforeseen subject final drive bearing failure resulting in loss of motorcycle control.

The information gathered and reviewed during this comprehensive effort fails to establish that a safety-related defect trend involving a final drive bearing failure exists in the subject motorcycles. Consequently, the petition is denied.

## **2.0 THE PETITIONER'S ALLEGATIONS**

The petitioner wrote to NHTSA on November 28, 2011 requesting that the agency open an investigation into “the repeated final drive bearing failure and possibly flawed assembly controls of the final drive unit on BMW K1200LT [motorcycles].” Prior to sending this letter, the petitioner experienced two crown gear bearing failures involving his model year (MY) 2001 K1200LT motorcycle. The first failure occurred in December, 2008 when the motorcycle had been driven 59,310 miles; the second failure occurred on October 21, 2011 at 75,994 miles. Neither incident resulted in a loss of control. The petitioner, an experienced motorcyclist, free-lance journalist, and Motorcycle Safety Foundation “Rider Coach,” alleged that the defect exposes subject vehicle operators to “potential loss of control, possible crash, injury and...eventual fatality.” Regarding his own experience, the petitioner stated that when the final drive bearing failed, the bearing parts could have caused the rear wheel to lock at speed, likely resulting in a loss of control. Further, the final drive oil leaking from the damaged bearing seal onto to rear tire could have resulted in a loss of traction for the rear wheel.

## **3.0 SUBJECT MOTORCYCLES**

This analysis covers all MY 1998 through 2010 BMW K1200LT motorcycles (shown in Image 1) produced for sale in the United States. Weighing 866 lbs., this “Luxury Tourer” motorcycle is a direct competitor of the Honda “Goldwing” and was the heaviest motorcycle in BMW’s lineup during those model years. As a “full-dress” touring motorcycle, it was also equipped with large capacity panniers and an integrated tail trunk giving it a “payload” weight-carrying capability of 456 lbs. (including driver and

passenger) for a gross vehicle weight rating of 1,322 lbs. All subject motorcycles are equipped with BMW's "Paralever" rear suspension/shaft drive system.



Image 1

#### **4.0 SUBJECT "FINAL DRIVE"**

In 1988, BMW Motorrad introduced the "Paralever" rear suspension/shaft drive swingarm (an upgrade from the company's original "Monolever" single-sided swingarm first seen on the MY 1980 R80GS). All of the subject motorcycles are manufactured with a "Paralever" suspension/shaft drive (shown in Image 2). The "final drive" is this Paralever element:



Image 2

Internally, the final drive is comprised of the components identified in Image 3. Owners report incidents of "ball bearing" (i.e., "crown gear bearing") and this analysis focuses on that allegation.

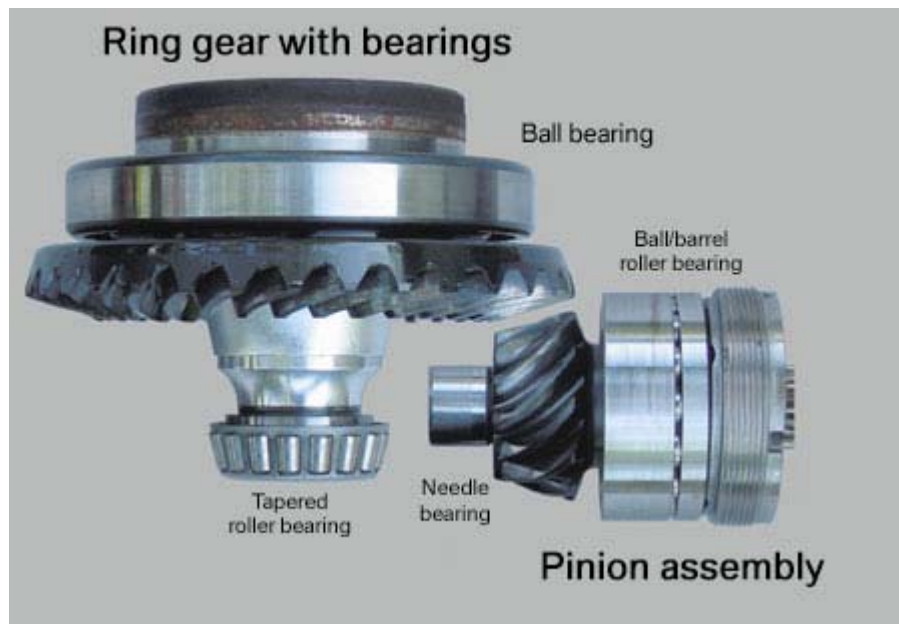


Image 3

## 5.0 CONSUMER COMPLAINTS

In analyzing this petition's merit, NHTSA gathered information about allegations of final drive bearing failures. In particular, NHTSA looked for indications that the failure(s) were sudden, unforeseen, and resulted in the driver's inability to control the motorcycle.

### 5.1 "BMW FinalDrive.com" Database

As owner concern about BMW final drive issues increased, an internet-based forum survey was conducted by a BMW motorcycle owner. By late 2009, at the survey's conclusion, 156 final drive bearing failure reports were logged with 70 involving the subject motorcycles. No verified crashes or loss of control allegations were noted.

Bearings give different warnings when they are failing including noise, increased vibrations, and the visible loss of bearing material. The alleged final drive bearing failures listed in the BMW FinalDrive.com database are consistent with these universally accepted bearing failure characteristics. Under "Precursor," those filing complaint(s) reported they became aware of impending bearing failure in the following ways:

- Vibration/Noise – 64 reports
- Oil leak – 27 reports
- Unknown – 26 reports
- Ride Quality – 16 reports
- Drain plug (debris noted on the magnet) – 14 reports
- Static rear wheel looseness – 8 reports
- No Warning – 1 report

## **5.2 Internet Forums**

Numerous internet forums concerning the alleged final drive bearing failures exist.

Because the same person often posts about one event on multiple forums, obtaining an accurate count or verifying incidents is not practical. Nevertheless, NHTSA conducted a review of the forums and still failed to find any allegations of crown gear bearing failure that resulted in a loss of motorcycle control.

## **5.3 BMW Motorcycle Owners of America and BMW Riders Association Rallies**

Since 2003, when NHTSA became aware of final drive failures on the subject motorcycles, the agency has attended 10 national rallies catering exclusively to BMW motorcycle owners. Both the BMW Motorcycle Owners of America (MOA) and the BMW Riders Association (RA) hold annual rallies drawing thousands of BMW motorcycle riders including hundreds of BMW K1200LT riders. During the rallies attended by NHTSA, the staff informally interviewed BMW motorcycle owners (including those with K1200LTs) about any final drive issues they might have experienced. While many owners expressed concern about the perceived safety consequence of a final drive failure, those who actually experienced a crown gear bearing failure reported that they retained complete control of the motorcycle when the incident occurred.



Additionally, while attending the rallies, NHTSA staff conducted seminars about the agency's safety defect program. During the question-and-answer portion of the seminars, NHTSA staff were asked about the agency's activities related to the BMW K1200LT final drive failure. As motorcyclists discussed their experience with a final drive bearing failure, NHTSA heard from many owners that a pre-ride check (as recommended by the Motorcycle Safety Foundation in its Basic Rider Course) would reveal if a bearing failure was imminent. If either rear wheel looseness and/or oil weeping from the ball bearing seal are noted, the bearing should be replaced before total failure occurs. Those who had experienced a final drive failure maintained that a loss of control could occur, but without exception, a loss of control was not reported.

#### **5.4 BMW's Early Warning Reporting (EWR) Data**

Since 2003, vehicle manufacturers have been required to provide EWR data to NHTSA on a quarterly basis. This data includes reports of incidents involving death(s) or injury(ies) and field reports. A comprehensive search of the BMW EWR data failed to identify any reports involving a K1200LT final drive failure.

#### **5.4 NHTSA's Consumer Complaint Database**

As of October 31, 2012, consumers have filed 122 reports with NHTSA involving BMW K1200LT motorcycles (with distinct vehicle identification numbers) alleging final drive failures. These reports were identified by searching NHTSA's database for all BMW complaints (cars and motorcycles) and manually reviewing them for relevance. In this way, NHTSA staff avoided searching too narrowly and identified all potential complaints. Complaints that either mentioned a final drive failure (even if the bearing wasn't identified) or described an event appearing consistent with a final drive failure were counted. In those instances where multiple failures were alleged, only the "first"

failure was counted. Duplicative reports were not counted. Likewise NHTSA staff did not count those reports filed by K1200LT owners simply expressing a “concern” that their final drive *might* fail.

The following tables represent the complaint data received by NHTSA sorted by report year, vehicle model year, and incident year. By report year, NHTSA found the following data in its database:

<b>Report Year</b>	<b>Complaint Count</b>	<b>Crashes</b>
2002	12	0
2003	27	0
2004	13	0
2005	9	0
2006	12	0
2007	8	0
2008	8	0
2009	8	0
2010	2	0
2011	2	0
2012	21	0
<b><i>Total</i></b>	<b><i>122</i></b>	<b><i>0</i></b>

By model year, NHTSA found the following data in its database:

<b>Model Year</b>	<b>Complaint Count</b>	<b>Crashes</b>
1999	39	0
2000	34	0
2001	16	0
2002	16	0
2003	9	0
2004	0	0
2005	4	0
2006	0	0
2007	1	0
2008	3	0
2009	0	0
2010	0	0
<b><i>Total</i></b>	<b><i>122</i></b>	<b><i>0</i></b>

By incident year, NHTSA found the following data in its database:

<b>Incident Year</b>	<b>Complaint Count</b>	<b>Crashes</b>
1999	1	0
2000	1	0
2001	6	0
2002	12	0
2003	22	0
2004	14	0
2005	10	0
2006	14	0
2007	6	0
2008	8	0
2009	10	0
2010	6	0
2011	6	0
2012	6	0
<b><i>Total</i></b>	<b><i>122</i></b>	<b><i>0</i></b>

#### **5.4.1 The Petitioner's Complaint**

On December 6, 2011, NHTSA received a letter (dated November 28, 2011) from Mr. Christopher Cimino about his MY 2001 BMW K1200LT motorcycle. In this letter, Mr. Cimino alleges he experienced two failures of the final drive ring gear ball bearing on his motorcycle. Mr. Cimino states that the first failure occurred in December, 2008 at 59,310 miles and that he paid Engle Motors of Kansas City (a BMW dealer) approximately \$400 to repair the motorcycle.<sup>5</sup> Mr. Cimino further reports that his K1200LT sustained a second alleged final drive crown gear bearing failure on October 21, 2011 at 75,994 miles. Mr. Cimino states that he had the motorcycle repaired the second time by Coast Riders Powersports in San Luis Obispo, CA (an independent motorcycle shop).

---

<sup>5</sup> Owners report a final drive repair or replacement cost averaging approximately \$1,400.

Through subsequent contact with Mr. Cimino, the agency learned that he had ridden his BMW K1200LT in multiple “Iron Butt” rallies ([www.ironbutt.com](http://www.ironbutt.com)) and on the Barber race track at a Reg Pridmore CLASS event ([www.classrides.com](http://www.classrides.com)).

As with many K1200LT owners, Mr. Cimino claims that a crown gear bearing failure results in a condition that poses a risk to rider safety. Mr. Cimino also believes that if not for his ample riding experience, he would have lost control of his motorcycle and a crash would have occurred following the crown gear bearing failures he experienced on his motorcycle.

#### **5.4.2 Calendar Year 2012 Complaints To NHTSA**

On February 3, 2012, a posting by Mr. Cimino appeared on a number of motorcycle-related internet forums.<sup>6</sup> Within three hours, NHTSA received the first of 21 “new” complaints for BMW K1200LT final drive bearing failures. This count exceeded the number of final drive bearing failure complaints NHTSA had received in the previous 13 months.<sup>7</sup>

Below is a listing of the 21 complaints NHTSA received following Mr. Cimino’s internet forum posting:

Incident Dte	Recv'd Dte	Model Yr	Failure Mileage	Crash
6/21/11	2/3/12	2003	143740	N
7/21/10	2/3/12	2001	87000	N
3/14/11	2/4/12	2002	58000	N
4/10/10	2/4/12	2002	76244	N
12/6/08	2/6/12	2003	30876	N

---

<sup>6</sup> For an example, see <http://www.advrider.com/forums/showthread.php?t=761531>

<sup>7</sup> From January 1, 2011 to February 3, 2012, the agency received two relevant reports...one was from Mr. Cimino.

7/10/10	2/8/12	2003	35116	N
5/18/10	2/8/12	2000	38696	N
Incident Dte	Recv'd Dte	Model Yr	Failure Mileage	Crash
2/1/12	2/15/12	1999	Unk	N
2/2/06	2/21/12	1999	Unk	N
6/17/11	2/24/12	1999	46000	N
2/25/12	3/5/12	2008	42000	N
6/15/09	3/13/12	2001	45151	N
7/15/11	5/3/12	2005	23200	N
5/3/12	5/9/12	2000	87822	N
4/8/10	6/7/12	2002	57010	N
7/17/09	6/29/12	1999	20500	N
5/1/09	7/5/12	2003	31555	N
8/24/12	8/29/12	2000	37550	N
9/24/04	9/6/12	1999	37290	N
5/15/12	10/11/12	1999	42000	N
4/15/12	10/22/12	2000	11500	N

## 6.0 NHTSA ANALYSIS

In assessing the petitioner's claim that a failure of the final drive crown gear ball bearing unreasonably subjects BMW K1200LT operators to a "potential loss of [vehicle] control, possible crash, injury and, if left unaddressed, eventual fatality," the agency reviewed consumer complaints filed with NHTSA as well as those posted on internet forums.

When NHTSA became aware of the alleged defect in 2003, the initial assessment was that, while final drive bearing failures posed a customer satisfaction issue for BMW, the crash risk was minimal. The subsequent nine years of subject motorcycle exposure without a crash reported appear to validate NHTSA's initial assessment. While the agency understands riders' concerns that a final drive bearing failure may result in a crash, NHTSA has not identified a single crash due to such a failure. NHTSA has found that when a bearing failure does occur on a K1200LT (even in those instances where the rider claims it was sudden and unforeseen), riders are able to bring their motorcycle to a safe stop.

## **7.0 CONCLUSION**

Based on the foregoing analysis, it is unlikely that NHTSA would issue an order to recall and remedy the alleged defect. In view of that conclusion, the petition by Mr. Cimino is denied.

[FR Doc. 2013-13779 Filed 06/10/2013 at 8:45 am; Publication Date: 06/11/2013]